Short Safety Subject

Short Safety Subjects are provided by the Public Safety Business Center, Fort Bragg, NC. Our intent is to provide safety topics for the purpose of increasing safety awareness and improving safety performance. Additional Short Safety Subjects are available on the PSBC Business Management Web Site at:

www.bragg.army.mil/psbc-bm/PubsAndForms/ShortSafetySubjects.htm

Snowmobile Injury

Background

Most previous research regarding snowmobile injuries was conducted prior to the advent of today's sleds that offer increased stability and durability, high speeds, and good visibility.

A snowmobile can weigh up to 600 pounds and some performance sleds can travel at speeds in excess of 90 miles per hour. At 90 miles per hour, a snowmobile moves at 131 feet per second. With a standard reaction time of 1.5 seconds, a snowmobile will travel 195 feet before coming to a stop.

The number of snowmobile operators in the United States is difficult to determine because there are no uniform requirements for licensure.

In 1996, there were more than 1.3 million registered snowmobiles in the United States.

The effect of snowmobile safety education for children younger than 16 years on the risk of snowmobile-related injury has not been reported in the literature.

Children are at risk for snowmobile-related injury from being the operator, bystander, or passenger. Pediatric snowmobile-related injuries are often a result of risk-taking behavior of the parent (excessive speed, alcohol use, and night-time driving) during snowmobile operation.

Population at Risk

Males younger than 16 years are more than three times as likely as females of the same age to sustain a snowmobile-related injury.

National Injury Estimates

During 1995, there were 16,226 snowmobile-related injuries in all age groups. Twenty-percent of snowmobile-related injuries occurred to persons younger than 16 years.

From January 1993 to December 1995, there were 10,628 snowmobile-related injuries to children younger than 16 years. The cost of injuries for the three-year period was $84,230,000 or $7,925 per injury.

Among children treated for snowmobile-related injuries, the most commonly treated areas include the lower extremities (32%) and head/neck (23%).

Risk Factors and Severity

Studies from the United States, Canada, and Sweden conclude that careless snowmobile operation is a factor contributing to snowmobile injury. Other contributing factors include the use of alcohol, excessive speeds, sub-optimal lighting, drowning, and lack of protection of head and limbs.

The most common mechanisms of injury (for all age groups) are falls off the machine and collisions.

The number of children who lose control of their snowmobiles and are injured suggests that a certain level of skill is required to operate snowmobiles. Children are often not properly trained and may be too small to control the weight, speed, and power of a snowmobile.

In a case-control study of snowmobile operators involved in fatal crashes, there was a fourfold greater use of alcohol than those injured fatally operating a motor vehicle or motorcycle.

The percentage of alcohol-impaired fatalities in snowmobiling is greater than fatalities associated with any other vehicle-related trauma.

A profile of snowmobile club members previously involved in a snowmobile-related crash involving personal injury or property damage revealed modifiable factors of high speeds on lakes and trails (greater than 90 km/hr), excessive alcohol consumption (average of three or more drinks per sitting and a history of heavy alcohol intake), and lack of driver experience.

Children younger than 16 years who received treatment for an injury were more commonly injured as passengers, less likely to be wearing a helmet, and more likely to be struck by another motor vehicle when compared to snowmobilers over 16 years who were treated for snowmobile-related injuries.